



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/586,595

01/18/2007

Stijn Jozef Rita Janssens

JANS3002/JEK

1652

23364 7590 04/12/2010

BACON & THOMAS, PLLC

625 SLATERS LANE

FOURTH FLOOR

ALEXANDRIA, VA 22314-1176

EXAMINER

MCKINNON, TERRELL L

ART UNIT

PAPER NUMBER

3744

MAIL DATE

DELIVERY MODE

04/12/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--|---|--|
| Office Action Summary | Application No. 10/586,595 | Applicant(s) JANSSENS, STIJN JOZEF RITA | |
| | Examiner TERRELL L. MCKINNON | Art Unit 3744 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/20/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 3744

4. Claims 21-24 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fattinger (US 3,925,040) in view of Kall (US 3977977) and Smith (US 1935822).

Re. Cl. 21, Fattinger discloses a heat exchanger, comprising a housing with a bottom, an upper wall and side walls, wherein onto two pairs of opposite side walls, the front wall and the back wall, respectively, are connected a supply and a discharge for a gas to be cooled and wherein means are provided in the housing for separating condensate from the cooled gas; and a collector extending from the bottom between the means for separating condensate and the back wall (see Figs and col. 2; 3-10 and col. 11-16).

Fattinger's invention fails to disclose a series of corrugated vertical walls upon which are provided crosswise extending ribs forming vertical gutters extending from the bottom up to the upper wall of the housing.

However, Kall teaches a series of corrugated vertical walls upon which are provided crosswise extending ribs forming vertical gutters (Fig. 1 and Abstract).

Given the teachings of Kall, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the heat exchanger of Fattinger with a series of corrugated vertical walls upon which are provided crosswise extending ribs forming vertical gutters extending from the bottom up to the upper wall of the housing.

Doing so would provide an excellent and reliable means of catching and/or blocking moisture from entering unwanted areas or removing condensate from air.

Fattinger's invention, as modified by Kall, fails to disclose wherein holes are provided in the bottom for the discharge of the separated condensate from the gutters via a collector.

However, Smith teaches wherein holes are provided in the bottom for the discharge of the separated condensate. (Fig. 10)

Given the teachings of Smith, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the heat exchanger of Fattinger with holes provided in the bottom for the discharge of the separated condensate from the gutters via a collector.

Doing so would provide an efficient removal structure for allowing the system to process gases.

Re. Cls. 22-24, Fattinger discloses a heat exchanger wherein the opening extends over the entire, or practically the entire width of the housing; the collector is formed U-shaped; and the leg of the collector which is situated closest to the back wall, is connected to the side edge of the opening on the side of the back wall (Fig. 1).

Re. Cls. 29 and 30, Fattinger fails to disclose the ribs are folded back at their free ends to the front wall of the housing; and each of the ribs is provided on the outside of a U-shaped bent part of the corrugated walls.

However, Kall teaches ribs are folded back at their free ends to the front wall of the housing; and each of the ribs is provided on the outside of a U-shaped bent part of the corrugated walls.

Art Unit: 3744

Given the teachings of Smith, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the heat exchanger of Fattinger with ribs folded back at their free ends to the front wall of the housing; and each of the ribs is provided on the outside of a U-shaped bent part of the corrugated walls.

Doing so would provide an efficient structure filtering moisture from heat exchangers.

5. Claims 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fattinger (US 3,925,040) in view of Kall (US 3977977) and Smith (US 1935822), as applied to claim(s) above, and further in view of Romero (US 5,983,996)

Fattinger's invention, as modified by Kall and Smith, discloses all of the claimed limitations from above except for a standing rib on the side edge of the opening; said standing rib having a cross edge on a free end thereof which extends over practically the entire opening; said cross edge, near the side walls of the housing, being shorter than near the center of the housing; and between the means for separating condensate from the cooled gas and the opening, and below the bottom of the housing, a crosswise extending edge is provided.

However, Romero teaches a standing rib on the side edge of the opening; said standing rib having a cross edge on a free end thereof which extends over practically the entire opening; said cross edge, near the side walls of the housing, being shorter than near the center of the housing; and between the means for separating condensate

Art Unit: 3744

from the cooled gas and the opening, and below the bottom of the housing, a crosswise extending edge is provided (Fig. 3, (52, 54, 56, 58)).

Given the teachings of Romero, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the heat exchanger of Fattinger, with a standing rib on the side edge of the opening; the standing rib having a cross edge on a free end thereof which extends over practically the entire opening; the cross edge, near the side walls of the housing, being shorter than near the center of the housing; and between the means for separating condensate from the cooled gas and the opening, and below the bottom of the housing, a crosswise extending edge is provided.

Doing so would provide a structure securing all water/condensate within a confined area and prevent condensate from entering unwanted sections of the heat exchanger.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references cited on the PTO892 discloses related limitations of the applicant's claimed and disclosed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TERRELL L. MCKINNON whose telephone number is (571)272-4797. The examiner can normally be reached on Monday - Friday.

Art Unit: 3744

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

April 11, 2010
/Terrell L Mckinnon/
Primary Examiner, Art Unit 3744